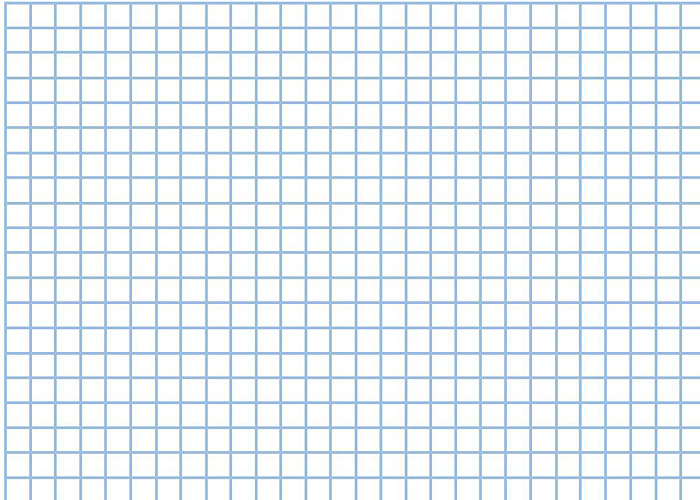
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_

**Designing an Experiment: The Rate of Photosynthesis in Tomato Plants**

Ms. OK, Pre-AP Biology

Design an experiment to test the effect of increasing amounts of sunlight on the rate of photosynthesis in tomato plants, and communicate the details of your experiment by answering the questions given below.

1. What is the independent variable in the experiment?
2. How could you change the independent variable in your experiment? How many “levels” of the independent variable will you use?
3. What is your control group in the experiment?
4. What are your experimental groups in the experiment?
5. What is the dependent variable in the experiment? What are two things that you could measure to determine changes in the dependent variable?
6. What are some factors that must be kept constant between the control and experimental groups?
7. Why is it important to use multiple plants in each group?
8. How will you organize your data? Show a sample chart in the space given below. (Note: You do not need to fill in “fake data” in the chart… just set it up!)
9. How will you show your data in a graph? Plot sample points on the grid below and connect them with a line. Make sure to include a title and axis labels. (You do not need to include a scale on either axis!)



1. What predicted trend did you show in your line graph? Why?
2. Why did you use a line graph and not a bar graph?